



Cécile Harmonie Otoïdobiga

2020 One Planet Laureate Candidate

Position

Associate Professor

Institution

Norbert Zongo University

Country

Burkina Faso

Education

PhD, Biological Sciences, Joseph Ki-Zerbo University, Burkina Faso

Mentor

Prof. Aboubakar Sidiki Ouattara,
Professor of Microbiology,
Joseph Ki-Zerbo University

Research Area

Control of iron and sulfur toxicity
in West African rice-producing
lowlands: a case study of Burkina
Faso.

32-year-old Cécile Harmonie Otoïdobiga is an Associate Professor of Biochemistry and Microbiology at Norbert Zongo University, in Koudougou, Burkina Faso. In 2019, this dynamic, bold and enterprising young scientist received the L'Oréal Foundation Sub-Saharan Africa Young Talents Award (FWIS/UNESCO) and the Early Career Fellowship Programme Award (OWSD/UNESCO). Her research is based on reducing iron and sulfur toxicity in the rice-producing lowlands of West Africa, particularly in Burkina Faso. Iron and sulfur toxicity are major edaphic issues in West Africa.

Cécile was born in Bobo-Dioulasso, the economic capital of Burkina Faso, where she remained throughout her childhood until obtaining her High School Diploma in 2006. She grew up with five siblings, with both her parents working in the agricultural engineering sector. From primary school age, she would often visit the laboratory where her father worked. Her parents were her role models as a teenager, and, deep down, she could not imagine working in any other sector.

However, her parents were keen for her to go into a different field such as law or management and economics, as they were aware of the specific challenges associated with research.

Nonetheless, Cécile was determined to study in this field, so she left her hometown and enrolled

in a natural sciences program at the University of Ouagadougou. She obtained her General Studies Diploma in 2008, a Bachelor's degree in General Microbiology in 2009, and a Master's degree in Applied Microbiology in 2010.

During her studies, she developed a passion for the environment, driven by her desire to positively impact the behavior of communities in the face of climate change.

In 2011, she was awarded the Burkina Faso national scholarship and began her postgraduate studies, obtaining a Postgraduate Diploma of Advanced Studies in Microbial and Cellular Biotechnology in 2012.

The following year, she was awarded a Ph.D. scholarship by the National Centre for Fruit and Vegetable Specialisation (Centre National de Spécialisation sur les Fruits et Légumes - CNS-FL/PAAO-WAAPP), which enabled her to continue her studies.

Between 2015 and 2016, Cécile was awarded funding from the International Foundation for Science and the National Competitiveness Fund and received a Doctoral Travel Grant from the West African Research Association. With this funding, she completed her thesis research and successfully defended her Ph.D. thesis in 2017.

Cécile's primary interest is the impact of iron and sulfur toxicity, which are affected by soil

and climate conditions, which cause high spatial and temporal variability. Her research is focused on developing an approach that incorporates climatic factors, subsurface drainage, bio-fertilization, and varietal selection.

Cécile feels at home in the field working with farmers, particularly in the rice-producing basins of the Kou Tiérofa and Moussodougou Valley regions. She conducts surveys to gather information on farmers' endogenous practices of combating the effects of climate change on rice fields, which are particularly vulnerable.

Cécile discovered the One Planet Fellowship in 2019 when the first cohort results were published on social media. The Fellowship has come at the perfect time for Cécile since she believes it will offer her an opportunity to achieve her goals.

She believes that it will improve her self-confidence, leadership, and mentoring skills and help establish her career in research. "It's the foundation of career development," she adds. "Networking and interacting are essential," she says.

According to Cécile, developing strong leadership skills will benefit her institution and help her build her professional and intellectual capacities. "I would like to have a voice in research in my country," she says. Fortunately, the One Planet Fellowship will enable her to gain wider international recognition.

The Fellowship will give her a competitive advantage within her institution and help her to raise more funding. She hopes to become a better mentor to other students and to collaborate more effectively with her colleagues.

She also believes that the One Planet Fellowship will lead to better research findings that can significantly improve agricultural

Cécile's research focuses on developing an approach that incorporates climatic factors, subsurface drainage, bio-fertilization, and varietal selection. She is working with farmers to identify endogenous practices of combating the effects of climate change on rice fields in Burkina Faso.

productivity and have a direct impact on reducing rice imports nationwide. This would represent a considerable cost-saving for Burkina Faso as a country.

Her first goal is to work her way up the ladder in higher education and scientific research to become a full professor. She would also like to develop international expertise in environmental protection and farming practices to combat climate change and work with the UN Environment or the FAO.

According to Cécile, women researchers continue to face prejudice in the African research community. Despite her role as a wife and mother, she is determined to disprove these misconceptions through her publications, accolades, and research quality. Outdated technical platforms in Africa are also a significant challenge and the lack of funding to conduct further research. She is determined to overcome these challenges by applying for funding to build her capacities and achieve her research goals.

Cécile Harmonie Otoïdobiga is one of the growing number of candidates selected to participate in the One Planet Fellowship. The One Planet Fellowship is a career development initiative that is building a robust pipeline of highly connected, inter-generational scientists equipped to use a gender lens to help Africa's smallholder farmers cope with climate change. The One Planet Fellowship is funded by the Bill & Melinda Gates Foundation, the BNP Paribas Foundation, the European Union and Canada's International Development Research Centre (IDRC). African Women in Agricultural Research and Development (AWARD) and Agropolis Fondation are jointly implementing the Fellowship.

Do you have any further questions? Send an email to: oneplanet.award@cgiar.org

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